UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,532	01/11/2002	Matthew P.J. Baker	GB 010022	6232

24737 7590 10/16/2008
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
DEAN, RAYMOND S	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
10/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/043,532
Filing Date: January 11, 2002
Appellant(s): BAKER ET AL.

Matthew P. J. Baker et al.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 17, 2008 appealing from the Office action mailed February 21, 2008

(1) Real Party of Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

20020009061	Willenegger	1-2002
6862449	Mohebbi et al.	3-2005
6385462	Baum et al.	5-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 7, 10 – 15, 19 – 20, 25 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Mohebbi et al. (US 6,862,449).

Regarding Claim 1, Willenegger teaches a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control

information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein respective closed-loop power control means are provided for individually adjusting the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach said closed-loop power control means being utilized to select a subset of primary stations greater than one primary station, selected form the plurality of primary stations, for the transmission of data over at least one channel between the selected subset of primary stations and the secondary station.

Mohebbi teaches a closed-loop power control means being utilized to select a subset of primary stations greater than one primary station, selected form the plurality of primary stations, for the transmission of data over at least one channel between the selected subset of primary stations and the secondary station (Cols. 11 lines 47 – 51, 16 lines 62 – 67, 17 lines 1 – 7, lines 19 – 24, See Arguments set forth above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the candidate selection circuitry of Mohebbi for the purpose of improving signal transmission between the mobile station and the network when said mobile station is located in regions of cell

overlap near the boundaries of individual cells while also reducing the interference associated with the soft-handoff operation as taught by Mohebbi.

Regarding Claim 6, Willenegger teaches a primary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein closed-loop power control means are provided for adjusting the power of some or all physical control channels between the plurality of primary stations and the secondary station, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, said closed-loop power control means being utilized to select the subset of primary stations.

Mohebbi teaches at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data

channel, said closed-loop power control means being utilized to select the subset of primary stations (Cols. 11 lines 47 – 51, 16 lines 62 – 67, 17 lines 1 – 7, lines 19 – 24, See Arguments set forth above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the candidate selection circuitry of Mohebbi for the purpose of improving signal transmission between the mobile station and the network when said mobile station is located in regions of cell overlap near the boundaries of individual cells while also reducing the interference associated with the soft-handoff operation as taught by Mohebbi.

Regarding Claim 10, Willenegger teaches a secondary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between the secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein closed-loop power control means are provided for adjusting individually the power of some or all physical control channels between the plurality of primary stations and the secondary station, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel and said closed-loop power control means being utilized to select the subset of primary stations.

Mohebbi teaches at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, said closed-loop power control means being utilized to select the subset of primary stations (Cols. 11 lines 47 – 51, 16 lines 62 – 67, 17 lines 1 – 7, lines 19 – 24, See Arguments set forth above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the candidate selection circuitry of Mohebbi for the purpose of improving signal transmission between the mobile station and the network when said mobile station is located in regions of cell overlap near the boundaries of individual cells while also reducing the interference associated with the soft-handoff operation as taught by Mohebbi.

Regarding Claim 2, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches means for encoding each downlink physical control channel, or part thereof, to which a set of control information is mapped with a respective scrambling code to enable the associated primary station to

be identified (Section 0034 lines 1 – 3, since this is a CDMA system there are inherent scrambling or PN codes that distinguish the base stations).

Regarding Claim 3, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches means for transmitting power control commands relating to each downlink physical control channel, or part thereof, to which a set of control information is mapped via a single time-multiplexed uplink physical channel (Section 0056).

Regarding Claim 4, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 1. Mohebbi further teaches means responsive to requests from the secondary station for selecting the primary station connected to the data channel (Column 17 lines 25 – 28).

Regarding Claim 5, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 1. Mohebbi further teaches means for establishing a plurality of communication links between a primary station and the secondary station (Figure 5), for determining which of the primary stations comprise selected primary stations, and for determining which of the communication links are selected (Columns: 4 lines 41 – 67, 5 lines 1 – 2, 6 lines 34 – 40, 16 lines 62 – 67, 17 lines 1 – 7).

Regarding Claim 7, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 6. Mohebbi further teaches means for acquiring or releasing a data channel in response to changing radio link conditions, to become or cease to be a selected primary station (Columns: 16 lines 62 – 67, 17 lines 1 – 7).

Regarding Claim 11, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 10. Mohebbi further teaches means for determining which of the primary stations comprise the selected primary station or stations in response to changing radio link conditions (Columns: 16 lines 62 – 67, 17 lines 1 – 7).

Regarding Claim 12, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 10. Willenegger further teaches means for transmitting each set of uplink control information over a separate physical channel (Section 0055).

Regarding Claim 13, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 12. Willenegger further teaches means for distinguishing the physical channels by use of different channelization codes (Section 0034 lines 1 – 3, since this is a CDMA system there are spreading codes for distinguishing the channels).

Regarding Claim 14, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 12. Willenegger further teaches means for distinguishing two of the physical channels by transmitting a first physical channel, which uses the in-phase component of the carrier, and a second physical channel, which uses the quadrature-phase component of the carrier (Section 0034 lines 1 – 3, typical CDMA systems use QPSK modulation, which comprises in-phase and quadrature components).

Regarding Claim 15, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 14. Willenegger further teaches means for interrupting an uplink physical control channel when uplink data transmission is required (Section 0034 lines 1 – 3, a typical CDMA system comprises control channels and data channels,

transmission of data occurs a plurality of different times in CDMA systems thus there will be interruption of the uplink physical control channels when uplink data transmission is required).

Regarding Claim 19, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 10. Willenegger further teaches means for achieving the time multiplexing by including separate power control relating to each primary station with which sets of control information are exchanged in a single physical control channel (Section 0056).

Regarding Claim 20, Willenegger teaches a method of operating a radio communication system arranging physical control channels for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), operating respective closed-loop power control means for individually adjusting the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach arranging at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over

the at least one data channel and control information mapped to select the subset of primary stations.

Mohebbi teaches arranging at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, said closed-loop power control means being utilized to select the subset of primary stations (Cols. 11 lines 47 – 51, 16 lines 62 – 67, 17 lines 1 – 7, lines 19 – 24, See Arguments set forth above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the candidate selection circuitry of Mohebbi for the purpose of improving signal transmission between the mobile station and the network when said mobile station is located in regions of cell overlap near the boundaries of individual cells while also reducing the interference associated with the soft-handoff operation as taught by Mohebbi.

Regarding Claim 25, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 10. Willenegger further teaches means for transmitting each set of uplink control information in a time-multiplexed manner over a single physical channel (Section 0056, since the power control commands are time multiplexed there will be a power control command for the downlink power control of each participating base station, for example consider the scenario of two base stations, there will be two power control commands (one power control command for base station 1 and one power control command for base station 2) that are time multiplexed, each base station

would respond to every other power control command thus enabling the rate of transmission of said power control commands to be reduced to half the original rate, which is in proportion to the number of base stations, which is 2).

Regarding Claim 26, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 25. Willenegger further teaches means for achieving the time-multiplexing by reducing the rate of transmission of power control commands (Section 0056, since the power control commands are time multiplexed there will be a power control command for the downlink power control of each participating base station, for example consider the scenario of two base stations, there will be two power control commands (one power control command for base station 1 and one power control command for base station 2) that are time multiplexed, each base station would respond to every other power control command thus enabling the rate of transmission of said power control commands to be reduced to half the original rate, which is in proportion to the number of base stations, which is 2).

Regarding Claim 27, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 26. Willenegger further teaches wherein the reduction in rate is in proportion to a number greater than or equal to the number of primary stations with which sets of control information are exchanged (Section 0056, since the power control commands are time multiplexed there will be a power control command for the downlink power control of each participating base station, for example consider the scenario of two base stations, there will be two power control commands (one power control command for base station 1 and one power control command for base station 2) that

are time multiplexed, each base station would respond to every other power control command thus enabling the rate of transmission of said power control commands to be reduced to half the original rate, which is in proportion to the number of base stations, which is 2).

3. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Mohebbi et al. (US 6,862,449), as applied to Claim 6 above, and further in view of Baum et al. (US 6,385,462)

Regarding Claim 8, Willenegger in view of Mohebbi teaches all of the claimed limitations recited in Claim 6. Willenegger in view of Mohebbi does not teach means for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped.

Baum teaches means for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped (Column 4 lines 22 – 28, the MCR is an operational parameter).

It would have been obvious to one ordinary skill in the art at the time the invention was made to use the MCR taught above in Baum in the CDMA system of Willenegger in view of Mohebbi for the purpose of implementing an adaptive power allocation, which can achieve high system capacity, and system coverage as taught by Baum.

Regarding Claim 9, Willenegger in view of Mohebbi and in further view of Baum teaches all of the claimed limitations recited in Claim 8. Baum further teaches at least one of modulation and coding schemes (Column 4 lines 22 – 28).

(10) Response to Argument

Examiner respectfully disagrees with Appellant's assertion that Mohebbi does not teach wherein closed-loop power control is utilized to select an active set of base stations. Mohebbi teaches the measurement of a signal-to-interference ratio (SIR) for the purpose of selecting a subset of primary stations (base stations) greater than one primary station (base station), selected from a plurality of primary stations (base stations), for the transmission of data over at least one data channel between the selected subset of primary stations (base stations) and the secondary station (mobile station) (See Mohebbi Cols. 16 lines 62 - 67, 17 lines 1 - 7, lines 19 - 24). Examiner agrees with Appellant that Mohebbi does not explicitly show that the SIR measurement is a closed loop power control means, however, Examiner will show below that the SIR measurement is an essential step in the closed loop power control process.

PLEASE NOTE: The following references are provided solely as extrinsic evidence in order to show what the conventional definition of closed loop power control is and what conventional closed loop power control entails:

Salonaho (US 6,678,531) Col. 2 lines 1 – 13, Nakahara et al. (US 20010019961) Section 0006 lines 1 – 12, and Zeira et al. (US 6,600,772) Cols. 1 lines 64 - 67, 2 lines 1

- 6 all clearly teach and show that the measurement of an SIR is not only an important but a required step in the closed loop power control process. Since the measurement of SIR is a closed loop power control step as shown above, the measurement is in fact part of a closed loop power control means.

Furthermore, Appellant does not provide any additional claim language that further defines or details how said closed loop power control means selects this subset of primary stations (base stations). Appellant's specification also lacks detail on how said closed loop power control means is utilized to select primary stations (base stations) thereby allowing examiner to provide the reasonable interpretation described above.

Examiner agrees with Appellant that soft handoff control and closed-loop power control have different functions and are not equivalent, however as stated above, the Appellant does not provide any additional claim language that further defines or details how said closed loop power control means selects this subset of primary stations (base stations) and the Appellant's specification also lacks detail on how said closed loop power control means is utilized to select primary stations (base stations) thereby allowing examiner to provide the reasonable interpretation described above. Note that clearly Mohebbi teaches the use of power control techniques in connection with soft handoff control to provide proper communication between the mobile stations and base stations. This, in combination with the above response that the power control technique used by Mohebbi is clearly closed loop power control, shows how the Mohebbi reference meets the limitations of the claimed invention.

Appellant also explains, in detail, the pilot strength measurement process in IS-95A to support Appellant's arguments, however, the Mohebbi reference is related to WCDMA (See Mohebbi Col. 7 lines 22 - 34), which also uses closed loop power control, as opposed to IS-95A.

Examiner respectfully disagrees with Appellant's arguments regarding Claims 2 – 10, 12 – 15, 19 – 20, and 25 – 27 for the same reasons set forth above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Raymond S Dean/

Primary Examiner, Art Unit 2618

October 7, 2008

Conferees:

Edward Urban (Supervisory Patent Examiner)

/Edward Urban/

Supervisory Patent Examiner, Art Unit 2618

Matthew Anderson (Supervisory Patent Examiner)

/Matthew D. Anderson/

Supervisory Patent Examiner, Art Unit 2618

Raymond S. Dean (Patent Examiner, Partial Signature Authority)